offered to a broader segment of the population in the decade before World War II. New social, political, and economic ideas thus disseminated were supplemented by the outpourings of the press. Some rural villages formerly a day's journey or more away from the nearest great city were brought only hours away by modern methods of transportation, particularly the railroad and the steamship. All these media brought the people and especially the young into contact with ideas and way of life alien to their own. Awareness of new opportunities, comforts, and pleasures to be had in the modern city planted a seed of dissatisfaction with the old manner of living.

C. Influence of Revolutionary Thought

An even more disturbing influence on the old way of life was the increasing spread of revolutionary social and political doctrines after 1916. The monarchical reformer K'ang Yu-wei had brought the traditional family under attack as early as 1898 by castigating the "virtues" associated with it as either non-existent or harmful to society. These ideas did not achieve any widespread currency in China until the rise of the New Culture Movement in 1916, a revolution in Chinese thought and expression. It emphasized individualism, the equality of the sexes, and the duty of service and loyalty to the nation. Ideas of this sort were spread by the May Fourth Movement of 1919, in the revolutionary propaganda of the Kuomintang during its struggle for power in the mid-twenties, by the student of anti-Japanese agitation of the thirties, and in the socially concious writings of China's new and popular authors.

1:Stanford U. S-4, 5 1956 AF16 SW China
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Annex "A," Subparagraph 3e,
Economic Background

TRANSPORTATION AND DOMESTIC TRADE

•489 For generations, Southwest China has lacked good transportation facilities. Before the founding of the Republic in 1911, not a single railroad was in operation in this area; nor were there many wide roads. The chief means of transportation at that time were the inland waterways and a limited number of country roads. The idea of building a modern railway in Szechwan was initiated by Chang Chih-tung in the last year of the reign of the Emperor Kuang-hsü of the Ch'ing dynasty,[1] but the plan failed. Extensive railway building was not started in the Southwest Region until 1936, just prior to the war of resistance against Japan. During the war, the Nationalist Government accomplished a great deal in both railway and highway construction in Southwest

1. Wang Chih-fen, Ch'eng Yü T'ieh-lu [Chengtu-Chungking Railway], Shanghai, Hsin chih-shih ch'u-pan-she, 1954, pp. 14-15.

1:Stanford U. S-4, 5 1956 AF16 SW China
AF16

489 China in spite of the numerous difficulties encountered. After the "liberation," the Communists, in addition to the rehabilitation of existing railways and highways, began to build new ones. In addition, some improvements have been made in inland water transport and aviation. Consequently, Southwest China is now able to ship its surplus grain to regions where grain production is inadequate.

I. RAILWAY REHABILITATION AND CONSTRUCTION

496 Since the Communists came to power in 1949, efforts have been made to restore and expand the railway network in Northwest and Southwest China. The railways which are now (1956) in operation in Southwest China are shown in Table 1.

2: Rock K-5 (1934-) 1947 AF16 Southwest China AF16

CHAPTER VII

Air Flight round Li-chiang Snow Range and through the 'A-ts'an-gko — Yangtze Gorge

489 Since my earlier days of exploration in Yün-nan great progress has been made in China: the most important was the linking of out-of-the-way places with centers of civilization, either by motor-road or aeroplane. Roads in our sense of the word are still rare in Yün-nan and few connect with neighboring provinces.[1] Since 1934 an air service has been established linking this far-away province directly with Shanghai (via Chungking) and other parts of China. An opportunity was thus offered to charter the plane K'un-ming of the China National Aviation Company for a flight to the Li-chiang Snow range and through the now famous gorge of the upper Yangtze called 'A-ts'an-gko. It is extremely difficult while exploring on foot in this greatest of all canyons to form an idea as to the lie of the peaks which hem in this gorge. To solve certain geographical problems I decided to fly through the gorge at a sufficient height to enable me to get a bird's-eye view of it and of the surrounding mountains.

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133 Viewing the peaks from the air, we have learned that the mountain mass of 'A-ts'an-gko with its towering peaks of A-ssu, A-ku and A-mbu nv-lv (p. 225) running parallel to the bulky pile of Gyi-nà nv-lv in the west, is by far the most important part of the northern end of the snow range (Plate 149). It forms a huge, broad pyramid, the western and north-western edges of which are the walls flanking the 'A-ts'an-gko gorge. Our picture was taken looking south from an altitude of 17,000 feet as the plane entered the gorge flying in a south-westerly direction. It shows clearly the tremendous pyramid separated from Gyi-nà nv-lv by a glacier-filled ravine, beyond which is visible Shan-tzu-tou, the highest peak of the range. This proves that Gyi-nà nv-lv (*see* p. 224) is to the east of Shan-tzu-tou, and not west as shown on Handel-Mazzetti's map. Viewing Gyi-nà nv-lv from the east one would never suspect that to the west of it extends, parallel to it, this far greater mountain mass of 'A-ts'an-gko nv-lv.

Our flight also definitely proved that the second highest peak of the snow range is in the 'A-ts'an-gko Range. In the next few pages I shall give a description of the actual flight through the gorge from notes taken on the trip.

THE FLIGHT

February 3rd (1936) was set as the day for the first flight to the Li-chiang Snow range. It was such a day as only Yün-nan could boast of at that time of year. The sky was cloudless and of a deep turquoise blue, the atmosphere crystal clear. The plane "K'un-ming" left the K'un-ming aerodrome at

[1] Two motor roads have since been opened: one connecting K'un-ming (Yün-nan fu) with Chung-king (Chung-ch'ing 重慶) via Kuei-yang, and the other K'un-ming with Burma via Hsia-kuan and Lung-ling. Owing to the war, air service to the coast cities of China was suspended but has again been inaugurated.

[p. 272]

T; Hu K-5 (1934-) 1946 AF16 Southwest China AF16

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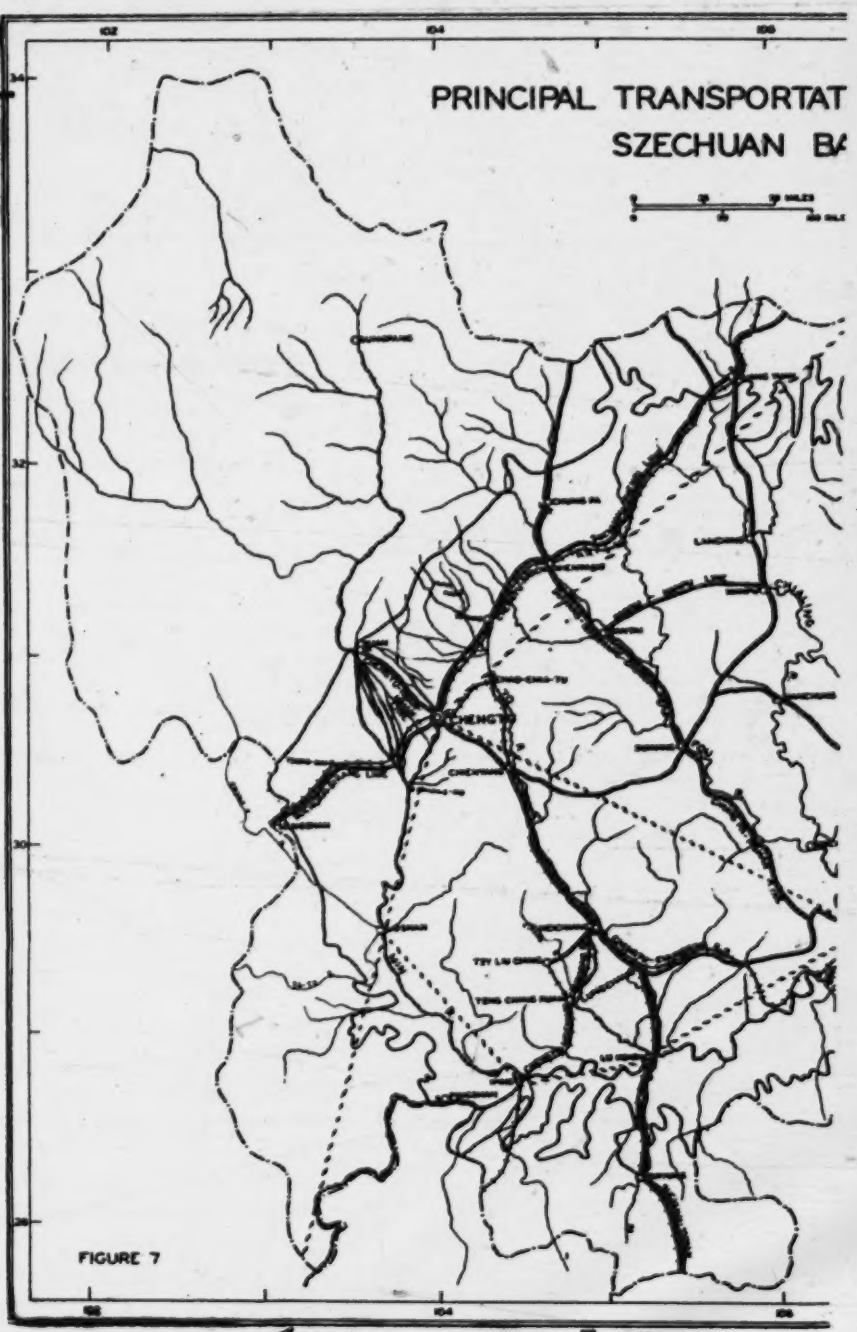

[End map 3(a)]

?; Hu K-5 (1934-) 1946 AF16 Southwest China AF16

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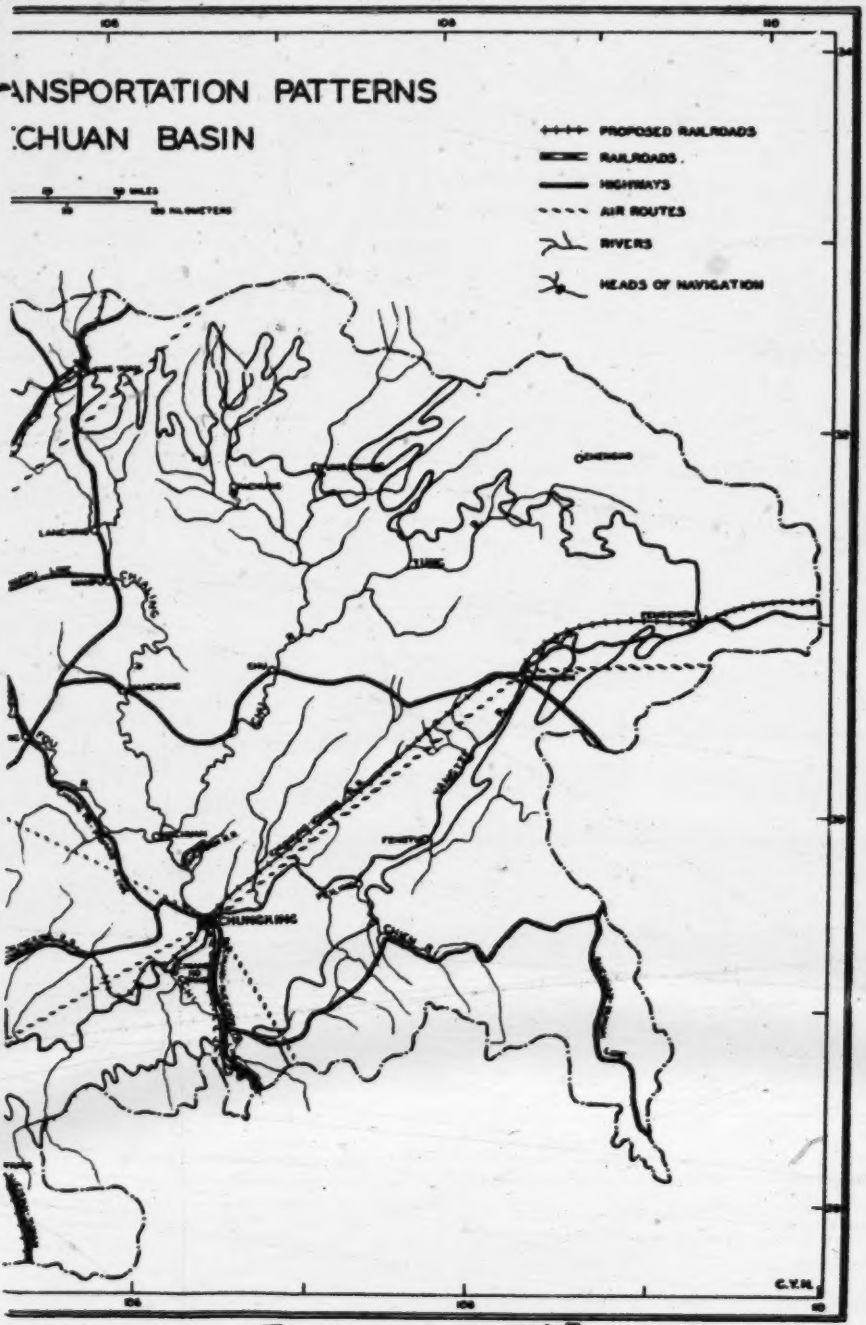

[End map 3 (b)]

7: Hu K-5 (1934-) 1946 AF16 Southwest China AF16

producer of both these key minerals among all the provinces of free China. 135

While it is true that Szechuan Basin is undoubtedly the most self-sufficient and prosperous agricultural region of China, many phases of its present agricultural and forestry land use cannot be said to be wholly satisfactory from the standpoint of modern technology and scientific development. As a matter of fact, the backwardness of some of the practices is appalling. Drastic measures of improvement are urgently needed. 242 313

The efficiency of the Basin's present agricultural land use has been handicapped greatly by many natural and cultural factors. Among these are the traditional "Tung Shui Tien" system; the undependable nature and marginal character of the hilly agriculture in many parts of the Basin; the presence of large tracts of unreclaimed vacant land (particularly at the peripheral areas of the Basin); ignorance of modern scientific methods of seed selection and plant-breeding (from the irrigated alluvial plain rice to the small millet of the non-irrigated eroded soils of the upper hills); the insufficiency and failure of cotton-culture in many parts of the Basin; the periodic or aperiodic famine in the more hilly areas due to the lack of the more drought-resistant crops; the serious nature of soil-creep in many hilly areas; the failure to modernize silk-culture; the failure to cultivate and to experiment with native herbs; and above all, the lack of satisfactory and efficient irrigation system in many terraced fields of the more hilly areas. 242

In forestry land use, the most noticeable difficulties are: the lack of long-range and far-sighted forestry policy and lumber exploitation; the failure to cultivate and to experiment with tung trees; the absence of well-organized and modern-equipped plantations in tung tree production; the lack of standardization of tung tree products; and the serious hazards (due to long and difficult hauling) of transporting the wax-insects in the white-wax tree industry. 313

Transportation both within and without the Basin has been made difficult by the swift flow of many of the streams and the ruggedness of the topography. Among all the regional problems of Szechuan Basin, none is more important and more acute than the issue of transportation. The solution of this problem will promote the efficiency of agricultural and forestry as well as other forms of land use in the Basin. 489

7: Hu K-5 (1934-) 1946 AF16 Southwest China AF16

the Szechuan-Yunnan highway will relieve to a considerable degree the traditional difficulty of transporting the wax insects for the white-wax tree industry. 314

In both mining and manufacturing, rapid progress has also been made. During the past few years, the Basin's coal production has been increased 400 per cent, iron production 300 per cent, and placer mining 200 per cent. Besides, the Basin is rapidly developing into a new industrial center of free China. It is now the home of over 61 per cent of free China's machine industry. At present the Basin accounts for about 40 per cent of the total manufacturing capacity of all free China. 316 178

Even in the most chronic and difficult problem of transportation land use, rapid progress is being made. Numerous commercial air lines have been inaugurated since 1932, many railways (some of them already under construction) have been projected; and the highway network of the Basin has been partly completed. Of the Basin's 136 districts, 85 districts, or 62 per cent, now have highway connections. Most important of all, the various projects for canalization of the numerous streams in the Basin have been vigorously advanced. Many of these projects (such as the Chi and Upper Chialing rivers) have already been completed. These achievements and many more to follow will make a long stride toward the satisfactory solution of the Basin's acute transportation problem. 489●

As to the future development of the Basin, one may approach the problem from two standpoints: first, the future prospect of the Basin as a base of operation against the Japanese invasion; and second, the future position of the Basin when peace returns once more. 133

As regards the first objective, the future of the Basin is bright. First of all, here, in Szechuan Basin, one finds a unique geographic region which has the interesting and fortunate combination of a mild south-China climate (with a long growing season), a rich north-China mineral resource (particularly coal and iron), a Yangtse Delta agricultural wealth, and above all, a southwest-China rugged mountain topography which provides protection against military invasion. The agricultural richness of the Basin is particularly important in maintaining a sustained self-sufficiency and should enable the region to hold longer against invading forces than would otherwise be possible. 241

7: Hu K-5 (1934-) 1946 AF16 Southwest China AF16

499 The need for railroads in the Basin is most urgent and the clamor for railroad construction is loud. Already there are four projected railroads, namely, the Chengtu-Chungking, the Tzeliuching-Luhsien, the Chengtu-Paochi, and the Chengtu-Kuming lines (Fig. 7).[a] The Chengtu-Chungking projected line is already under construction. This line, after its completion, will link the rich agricultural Chengtu Plain and the growing industrial Chungking area. Furthermore, the completion of the Tzeliuching-Luhsien line will bring forth a more efficient operation of the vital brine-salt industry of the Basin.

509 d) The major air-routes.--If highway development in Szechuan Basin is still in its childhood, airway development is in its infancy. It was not until 1932, only about ten short years ago, at the initiation of the Shanghai-Chengtu air-line, that the Basin first experienced commercial air service. Since then, commercial flying in the Basin has been growing steadily. The original Shanghai-Chengtu Line has suspended operation since 1938 on account of the war.

There are now five principal air lines in the Basin, namely, the Chungking-Hongkong (now extended only to Kunming after the Japanese occupation of Hongkong in December, 1941), Chengtu-Sian, Chengtu-Kunming, Chungking-Chengtu, and Chungking-Loshan lines. Among them, the Chungking-Hongkong (now to Kunming) and Chengtu-Sian lines are the most important.[1]

All the above air-lines are engaged principally in passenger and mail service. Freight capacity is still very limited. In so far as use for cargo transportation is concerned, the present air-line facilities are far from satisfactory. The airways of Szechuan are at best only a symbol of modernization, but the growth has been phenomenal and the future outlook is promising. The cultural and educational value of the air traffic to the inhabitants of the Basin is certainly tremendous.

●489 e) The relation of transportation to the agricultural land-use in the Basin.--Among all the regional problems of Szechuan 435 Basin, none is more important and more acute than that of transportation. The poor transportation has hampered in more than one way the efficiency of the Basin's agricultural and forestry land-use.

In the first place, the difficult and therefore costly transportation has prevented farmers in the Basin from earning as

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[1] Report of the Bureau of Reconstruction, Szechuan, op. cit., p. 52.

[a] [See end map 3 - Analyst]

much from their crops as otherwise they might have realized. The classical example is that of wheat during the world war I, when wheat was in great demand throughout the world at that time and was sold for 2.50 to 3.00 Yuan[1] per bushel in Shanghai. At Chungking, however, only 1,500 miles away from the latter port, a bushel of wheat was sold for only ten cents! There is an old saying in the rural areas here: "Pai li pu fang tsu," literally meaning "bulk (grain) is not sold one hundred li away." This reflects vividly the difficulty and high cost of transportation.

Another astounding example is that many orange growers in the To Valley often let their oranges rot in the field rather than pick them, because it is so difficult and so expensive to get them to market. On the other hand, only 800 moles away, at Hankow, imported oranges are sold for about a dollar (Yuan) for a half dozen.

Finally, also due to the same difficult transportation, it is tragic to see many farmers in the more remote hilly areas let their land lie idle for months on account of the high transportation cost of shipping bulky fertilizers, such as soy bean or tung oil cakes.

7. Mining and Manufacturing Patterns

Approximately less than 10 per cent of the population in the Szechuan Basin are engaged in the mining and manufacturing activities. The Basin's recent rapid development in mining and manufacturing has strengthened its position as a rich self-sufficient geographic region. In fact, mining and manufacturing largely supplement the agricultural and forestry pursuits, and thus, as we shall see later, help to bring forth an increasing efficient agricultural and forestry land-use in the Basin.

With the numerous metamorphic formations, volcanic intrusions, and the Jurassic-Triassic (coal and salt-brine bearing here) formations, particularly in the fringing and the anticlinal regions, the Basin's mineral deposits are abundant and varied. They include both metallic and non-metallic deposits, such as iron, copper, gold, silver, aluminum, salt, coal, petroleum, and asbestos. Among them, judging from the volume of present production, salt, coal, and iron are by far the most important. The

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[1] One Yuan (dollar) in normal times (pre-war) has an exchange rate of approximately one-third of a United States dollar.

7: Hu K-5 (1934-) 1946 AF16 Southwest China. AF16

437 farms here are within a few miles of a market. Each town has usually three or four market days per week, which alternate with those of the neighboring towns. The larger places have a daily
437 market. The produce is usually carried on men's backs on shoulder poles, or loaded on wheelbarrows. The noise of the wheelbarrows
489 on the stone-paved roads in the quiet of the early morning is as genuinely Chengtu Plain as many of its other unique landscape features. This peculiar noise, together with that much-advertised smell of night soil in the oriental farm fields, adds another unique double feature to the already too-colorful Chengtu-Plain landscape.

Moreover, in spite of the obstruction of irrigation dams, the extensive inter-communicating canal systems in the Plain help provide channels by way of which many of the villagers in the Plain can send their produce (such as vegetables, fruits, poultry, pork, and other products) to the city or to other towns by boat. And at the same time they bring home their purchases by the same conveyance. The canals thus facilitate considerably the otherwise very difficult transportation conditions. Here reminds one of the similar scene, though on a much smaller scale, which is commonly seen in the Great-Lake Canal regions (such as the Wu-shih and Soochow areas) of the Lower Yangtse Delta.

226 g) Practice of aqui-culture.--Because there are thousands of acres of ponds and water-covered paddy fields in Chengtu Plain, aqui-culture is also practiced here. The principal activity along this line is fishing--for fish, frogs, snails, and crabs. Cormorant fishing is particularly characteristic. Because the Min River and other streams in this area are fairly clear during some months of the year, the fish can be easily seen as they hurry upstream to spawn. Thus, the cormorant catch is generally very successful here. Other phases of aqui-culture include digging for aquatic plants, such as lotus seeds, water chestnuts (Trapa natans), and Calladum, which are all delicacies to the people here.

162 Chengtu Plain occupies an area of approximately 6,000 square kilometers, about one-twenty-fifth of the total area of the Basin proper, as delimited in the present study. But it has a population of more than 4,000,000 people, or about one-twelfth of the total population of the province. The average population density of Chengtu Plain is a little over 700 persons per square kilometer, or nearly 1,800 persons per square mile. Nowhere in